Abstract

Currently, the use of probiotics as well as prebiotics and symbiotics permeate the medical and lay literature. Although not all functions of probiotics are known yet, their role in maintaining human health is undeniable. Particularly during pregnancy, one of the greatest legacies that a pregnant woman can leave for the fetus and subsequent newborn is good microbiota. This article aims to bring the main implications of the maternal microbiome on child health.

Keywords: Probiotics; Prebiotics; Symbiotic; Pregnancy; Maternal microbiome.

1. Introduction

The importance of probiotics in pregnant women is undeniable, such as the production of vitamins K and B12, regulation of the immune system, and digestion of nutrients. But not all components of the gut microbiome are good for human health. When good habits such as doing exercises and eating healthy foods are established, a functional microbiome is a result. Otherwise, when sedentarism, being overweight, and eating nonhealthy food are present, dysbiosis may occur. When dysbiosis occurs during pregnancy, the outcomes can be dangerous for the pregnant and for the infant. If this dysbiosis occurs in neonatal preterm infants, the risk rises for disease as necrotizing enterocolitis and sepsis. The risk of dysbiosis is associated with the risk of chronic degenerative diseases and compromises not only the future of the individual but also of an entire society.

2. Importance of probiotics in pregnant women

Currently, the use of probiotics as well as prebiotics and symbiotics permeate the medical and lay literature. But knowledge about microorganisms began with microscopy in 1965 when Robert Hooke and Antoni Van Leeuwenhoek began to describe the taxonomy of beings that were totally unknown until then.

Decades later, culture methods began to be implemented, expanding the knowledge of microorganisms. But it was soon realized that through culture it would not be possible to recognize more than 30% of the whole research. Since then, the evolution of research on microorganisms has taken a similar focus to that of the genome, and today the microbiome is at the height of scientific interest. Today the microbiome tries to understand how the RNA, DNA and metabolites of microorganisms act in the human body. (1)

Humans have 1 to 2 kg of intestinal microbiota. The gut microbiome consists of a community of $10^{14}$ bacterial comprising thousand different species. This number is greater than that of our cells, and the entire genome of these

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problems that permeate it such as a sedentary lifestyle and poor diet, the health of the
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world, Brazil has a high number of
The second step of a healthy microbiota is also shown to be compromised in Brazil. Unlike several countries in the
world, Brazil has a high number of cesarean sections. In 2019, Brazil ranked second in the world for cesarean sections, maintaining an average of 56.3% of deliveries while the world average is 15%. (5). Brazil also fails to breastfeed, with only 36% of children able to be breastfed for up to 6 months. And to complete the dysbiosis process, the early introduction of fatty, sugary, and ultra-processed foods in childhood is added.

The risk of dysbiosis is associated with the risk of chronic degenerative diseases such as inflammatory bowel disease, atopic disease, overweight, and diabetes mellitus. Dysbiosis caused by being overweight in pregnancy and inadequate nutrition of children compromises not only the future of the individual but also of an entire society.

With the immediate pattern of the contemporary population, it is soon thought that it is enough to supplement pregnant women and children with lactobacilli and everything will be solved. Unfortunately, this is not what studies have been able to prove so far. Lactobacilli supplementation in pregnant women today brings more questions than answers. It is not known if all can make use of it. If they could, which strains would be best, in what quantity, and for how long. Today, the World Allergy Organization was the only one to pronounce for which situations supplementation would be indicated: pregnant women at high risk of having an atopic child, women who breastfeed children at high risk of atopy, and children at high risk of developing an allergy. (6)
3. Conclusion

Therefore, it is extremely important that the pregnant woman understands that prevention is the only way out and that the lactobacillus does not have the role of replacing good nutrition, exercise, and a healthy lifestyle.

Compliance with ethical standards

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Disclosure of conflict of interest

No conflict of interest.

References


